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A CONTRIBUTION TOWARDS A MONOGRAPH OF THE INDIAN PASSALIDÆ,—
by DR. F. STOLICZKA.

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Some years ago, when I visited my veteran friend Dr. J. J. Kaup in Darmstadt, I found him, quite unexpectedly, busily engaged with PASSALIDÆ. He urged me most strongly to collect Indian specimens, which I did; but the collection progressed so very slowly,—in spite of the very numerous applications which I made for assistance,—that Kaup's Monograph of the family appeared early in 1871* without my little contribution in the way of Indian materials.

When I saw that the geographical distribution of the PASSALIDÆ is so very peculiar and interesting for the study of our Indian fauna, I resolved to continue my researches, and to publish as far as possible a revised Monograph of all the Indian species, with such little additions to the anatomy and development, as might be obtainable. Of these points I shall, however, not speak on this occasion; they will be fully treated in my Monograph, which will be accompanied with all the necessary illustrations. I will merely mention that in India we meet with PASSALIDÆ in those districts only which have a Malayan fauna. No species is as yet known from the Himalayas west of Nipal, or from any part of Central India or the Panjáb.

The object of the few following lines is chiefly to give a list of the Indian species with authenticated localities, together with diagnoses of the new species which had lately come under my observation. I am sorry that I cannot complete more fully the task which I undertook, but in the middle of pre-

* Berliner Entomologische Zeitschrift, vol. xv.

parations for an expedition to Central Asia I am not allowed to do more, than to shew those who assisted me that their materials had been duly appreciated. My old friend Dr. C. Felder, the Lord-Mayor of Vienna, has sent me the whole of his collection of PASSALIDÆ for examination, and Dr. L. Redtenbacher, the Director of the Vienna Museum, sent me a great number of eastern species. These are rare instances of liberality and true interest in the work. My thanks are further due to Messrs. W. S. Atkinson and J. Wood-Mason, Messrs. Peal (Assam) and Mandelli (Darjeeling), Major H. H. Godwin-Austen, Major Beddome, Mr. Stahlknecht of Singapore, Mr. Theobald, Rev. Baker, Dr. Cameron, the late Dr. Walter Abbey and the late Capt. Mitchell of Madras. The original collection in our Museum contained only five of the commonest species.

In recording the species I will follow Kaup's last Monograph on the subject. Whatever opinion various naturalists may have regarding the mode of classification which that distinguished author has adopted, I do not think that they will find much fault with the limitation and characteristics of the genera* and species. Undoubtedly that Monograph is the most complete and the most remarkable paper which the philosophical school of naturalists has in late years produced. I am now not prepared to say anything for or against it, but I will do so in my Monograph, when I hope to have examined a larger number of PASSALIDÆ, than I had been able to do up to the present. Such mental productions† must not be disposed of with prejudice, they are entitled to receive a fair trial and a full share of all opinions *pro* and *con*, before we side one way or the other. Nobody will, after careful perusal, deny the fact, that Kaup's classificatory arrangement has in many respects very considerable advantages; it is easy and practical, but time and research must shew whether it can be adopted or not. Whenever I shall have any scruples against generic definitions, or against the quinquennial divisions, I shall state my reasons without any reference to the validity of the whole system.

Before proceeding to the details I have only to mention that I shall include in the present list all the species known to occur in the East Indies, *viz.*, India proper (Vorder-Indien), with Eastern Bengal, Burma, and the Malayan Peninsula as far south as Singapore (Hinter-Indien).

Sub-fam. AULACOCYCLINÆ.

1. AULACOCYCLUS PARRYI, Kaup.

I received numerous specimens from Malacca.

* Even in the very limited sense in which the author defines them.

† For a short exposition of the principles of the system, and a brief discussion thereon, see Proc. of the Society for May, 1873.

2. CERACUPES AUSTENI, n. sp.

This species possesses all the characteristics of the genus, as given by Kaup. Total length 22 m.m., width of head 4·8, of prothorax 6·6, of wings at the shoulders 6·8, length of elytra 12·3 m.m.

In general structure it is very like *C. fronticornis*, but the clypeus-horn is obtusely rounded at the end, not emarginated, the upper concave edge is punctated, longer and narrower than in that species. The processes on the jaws are posteriorly flattened and rugosely striated, anteriorly convex and smooth. The lateral scar of the prothorax forms a punctated S. Scutellum smooth, waist at the sides densely punctated.

The furrows of the wings are coarsely punctated, without any perceptible hair. The metasternum is convex, generally smooth, only along lateral margins finely punctated. The median tibiæ have externally two spines, the posterior ones only an indication of a small point.

Hab.—Naga hills, North Eastern districts of Bengal. Major H. H. Godwin-Austen found a couple of specimens at an elevation of 6000 feet.

I have never received *C. fronticornis* from any of these districts. It must come from the Chinese portion of eastern Tibet, for western Tibet has no forests.

3. COMACUPES CYLINDRACEUS, Perty.

Hab. Johore, at the southern end of the Malay Peninsula. One specimen measures: total length 26·4 m.m., width of clypeus 5·5, (Kaup gives 7 m.m.) width of prothorax 8, (Kaup gives 9), length of elytra 14·9 m.m., (Kaup gives 25½, which is clearly a mistake for 15·5 m.m.).

Kaup's specimens from Malacca appear to have had a much broader clypeus and prothorax, but the two Johore specimens which I examined agree with the description of the species in every other detail.

4. COMACUPES MASONI, n. sp.

Total length 30·5 m.m., width of clypeus 6·4, of prothorax, or shoulders, 9·1, length of elytra 16·75 m.m.

Resembles *C. basalis*, but is much more slender; upper lip with the front surface sloping, but scarcely indented at the edge; densely hairy. Clypeus densely punctated and shortly hairy, except in front of the horn, which is large, compressed, strongly projecting in front and very slightly elevated, with an obtuse end sharpened from below, its posterior end is almost vertical without a free point, the upper ridge is obtusely rounded, except for a short distance along the middle which is concave and rugose. Prothorax with the lateral scar small, smooth, with a little dot in front of it, as in *C. cylindraceus*, but in the present species the marginal furrow is in front near the corner almost angularly bent in. The furrows on the wings are slightly more coarsely punctated, than in the last species.

Scutellum and the waist at the sides and the whole of the lower side densely punctated and shortly hairy. Lower lip densely and coarsely punctated and hairy, with barely an indication of a central carina. The last four abdominal segments almost quite smooth. Middle and hind tibiæ each with a strong spine.

Hab.—Johore, obtained by Mr. J. Wood-Mason.

Kaup quotes *C. cavicornis* from Malacca and Penang. I have not seen it, but there is a specimen of a *Comacupes* in Dr. Felder's collection, evidently belonging to a new species.* Its locality is given as Bras., which clearly means Brasilia, there is, however, no such form described from America, the specimen came much more likely somewhere from the Philippines.

5. *TÆNIOCERUS PYGMÆUS*, Kp.

Malacca. I have as yet obtained only a single specimen.

6. *TÆNIOCERUS BICANTHATUS*, Guér.

Johore, north of Singapore.

7. *TÆNIOCERUS BICUSPIS*, Kp.

Sikkim, Assam and Cachar hills. Common. Kaup also gives Malacca.

Sub-fam. ERIOCNEMINÆ.

First group. SOLENOCYCLÆ.

8. *PLEURARIUS BRACHYPHYLLUS*, n. sp.

Total length 43, width of clypeus 9·8, of prothorax 12·5, length of elytra 14·2; total length varying from 41 to 44 m.m.

* *Comacupes Felderi*, n. sp. Total length 22·5, width of clypeus 5, width of prothorax 6·6, of shoulders 6·8, length of elytra 13·2 m.m. Upper lip in front and laterally deeply concave, as in *Aulac. teres*. Jaws with the upper of the three front teeth very small. Clypeus smooth, with a fine groove along the anterior straight margin. Horn situated far behind, as in *basalis*, rising almost vertically, slightly inclined forward, behind with a convex, smooth, simple and rounded edge; anteriorly below the point it is first vertically truncated, then concave, falling with a broad surface to the large forehead. Ocular ridge sharply angular in the middle, terminating with a small sharp point in the anterior corner of the clypeus.

Prothorax with a median groove, deepest about the centre, and a punctated, complete marginal furrow, only slightly bent in anteriorly; lateral scars small, sub-semilunar, deep, finely punctated. Wings in the furrows indistinctly punctated, not hairy. Scutellum smooth, waist at the sides finely punctated, below entirely smooth as is also the case with the metasternum and the abdominal segments. Tongue with a central carina and with the lower halves of the sides somewhat concave and roundly dilated. Lower lip smoothish in the middle, with a central impressed projection in the front edge; its lateral branches densely punctated. Tibiæ of the front feet very broad, each with six denticles; middle and hinder tibiæ stout, each with a sharp spine.

Jaws bidentate at the end; upper lip truncated in front, covered with red stiff hairs. Antennæ long, with only three short terminal lobes. Clypeus uneven, but not punctated; the central horn is flatly convex, smooth, transversely very elongately subtriangular, anteriorly with a small projection, ending in a small free point, from which diverge in a slight curve the frontal ridges, terminating with distinct tubercles near the front edge. This frontal edge has a sharp process above each of the two lateral margins of the upper lip, the left appears to be occasionally a little larger than the right one, recalling a similar structure in *Basilianus*. The two frontal tubercles are connected by a low ridge and the margin between them is deeply concave. Supraocular ridges with a sharp point above each eye, flattened in front, and externally at each corner terminating with a small spine.

Prothorax moderately convex, with a distinct central groove, but not extending anteriorly to the margin; marginal furrow narrow, finely punctated; lateral scar forming a shortly elongated and smooth impression.

Scutellum at base finely punctated and hairy, along each side of the centre finely strigated. Waist laterally densely punctated, below smooth, somewhat transversely rugose, but without any special scar.

Elytra with the shoulders somewhat swollen and projecting, smooth; all the furrows distinctly punctated.

Tongue long, with a median and two marginal ridges, strongly contracted in the lower half. Lower lip with its branches entirely punctated and hairy, slightly depressed in the middle.

Metasternum laterally densely punctated, but the posterior sloping corners are smooth, which is also the case with all the abdominal segments.

Prothorax at the lateral lower sides, and the median femora, covered with dense, long, rufous-brown hair; anterior femora, sides of metasternum and hinder tibiæ a little less hairy.

Hab.—Nilgheries and Malabar. I received originally two specimens of this species from the Madras Museum, but since then several others have been sent to me by Major Beddome and Rev. Baker.

Kaup describes a single species, *P. pilipes*, from Sumatra. The generic characteristics have to be slightly altered, but in all essential points the South Indian species agrees with *Pleurarius*.

9. SEMICYCLUS REDTENBACHERI, n. sp.

Total length 25·4, width of clypeus 5·2, of prothorax 7·3, of shoulders 7·1, length of elytra 14·3 m.m.

Jaws rather short, each with three denticles; antennæ moderately elongated, the three terminal lappets well developed and equal; upper lip squarish, hairy, very slightly concave at the front edge.

Clypeus rugose, punctated on the forehead, front edge very slightly emarginate in the centre, and with a small projection above the edges of the

upper lip. The horn originates in a slightly convex smooth tubercle, and extends freely and almost horizontally to near the front edge, its base is posteriorly and at the sides surrounded by a slight furrow, and from the point where the horn becomes free originates on either side a low, indistinct ridge, which makes a curve anteriorly and terminates in a small tubercle some distance short of the marginal projections. Supraocular ridges undulating, each with a sharp point above the eye and another at the anterior corner of the clypeus.

Prothorax convex, with a central groove; marginal furrow incomplete, punctated, terminating anteriorly, some distance from the central line, with an elongately ovate scar. Lateral scar large, slightly impressed, composed of a number of irregularly arranged, coarse pits; a few dots exist near the anterior corner.

Scutellum very finely punctated at the base; waist laterally densely punctated, below nearly smooth.

Elytra rather depressed above, but comparatively high; all the furrows coarsely pitted; each shoulder with a tuft of brown hair, which also extends a little posteriorly along the margin.

Tongue with three ridges, minutely punctated, tridentate at the front edge which is slightly narrower than the base. Lower lip transversely rather elongated, smooth, convex, with a rounded scar at each end; the lateral branches densely punctated. Metasternum on the posterior sloping corners coarsely punctated. Abdominal segments with an oblique furrow on either side, but in other respects nearly smooth.

Hab.—Ceylon. The only specimen examined is in the Vienna Museum; it was obtained by the late Mr. Zelebor during the Novara expedition.

The species almost perfectly agrees with the characteristic of the genus as given by Kaup.

Second group. LEPTAULACEÆ.

Out of the five genera distinguished by Kaup only one is represented in India, namely *Leptaulax*. It seems to be a little too closely allied to *Ciceronius*, and still more so to *Didimus*. From the last it is stated to differ by the single denticle in the centre of the front edge of the clypeus, while *Didimus* has two; but I have in a few instances also observed two denticles in both *Lept. bicolor* and *dentatus*. Of course we may say, what is in *Didimus* the rule, is an exception in *Leptaulax*, still it looks rather a little arbitrary to define genera in such cases. However, as I have not a single one of the species of *Didimus*, described by Kaup, for comparison, I do not wish to propose any changes in the genera, as characterized by him. Looking at *Leptaulax* in Kaup's sense, it seems to me somewhat doubtful that the number *five* will suffice to include all the different forms which must belong to the genus. The following details, taken with those of Kaup, may speak for themselves.

10. *LEPTAULAX DENTATUS*, Fabr.

The typical small form was obtained from Sikkim, Bútán, Assám, Tenasserim (at Mergui) and from Johore. In the Vienna collections it is represented from nearly all the Philippine islands.

The larger form, or *L. Timorensis*, is also very abundant in Sikkim (between 500 and 1000 feet), Bútán, Assám, Naga hills, Pegu (near Tonghú), and on the Andaman islands. It grows up to 37 m.m. I had very large numbers of both forms for comparison, and came to the conclusion that no definite characters exist by which the two species could be separated. I have all intermediate sizes from 21 to 37 m.m.

11. *LEPTAULAX BICOLOR*, Fabr.

Very common in Sikkim and through the whole of the Malayan Peninsula, as well as on the Andaman and Nicobar islands, in Malabar and in Ceylon. From the last locality two specimens exist in the Vienna Museum collection under the name of *Nietneri*, M. C.

A peculiar small variety, possessing cross bars in the lateral furrows of the elytra, instead of simple dots, occurs at Johore.

12. *LEPTAULAX PLANUS*, Illig.

This is, I think, a good species, the smallest of all our eastern *PASSALIDÆ*. It is very much more depressed, than either of the previous species, and in proportions and relative size of the prothorax and of the elytra it more closely resembles *dentatus* than *bicolor*, of which it is stated to be a synonym. Specimens from Java, Johore, and Malacca, whence I have lately obtained large numbers, measure between 13 and 14 m.m., but a somewhat larger variety occurs in Burma and on the Andaman islands. Specimens from these last localities measure 18 m.m., they are in almost every other respect identical with typical *planus*.*

Of the third group, the *ERIOCNEMINÆ*, no species as yet occurred within our limits. I received *Vellejus Moluccanus* from Amboina, *Eriocnemis monticulosus* from Sumatra, and gigantic specimens of *Erioc. tridens* from Java, but none from Siam or Malacca, which localities are also given by Kaup. The last species will have, therefore, to be included in our list.

Fourth group. *MACROLINÆ.*13. *MACROLINUS LATIPENNIS*, Perch.

Malacca; apparently rare.

14. *MACROLINUS WEBERI*, Kp.

Johore; a single specimen from Mr. J. Wood Mason.

* In Dr. Felder's collection I find a Malacca specimen named *paxilus*?

Dr. Redtenbacher (Coleopteren, Reise Oest. Fregatte Novara, 1867, p. 49) gives *Mastachilus politus** from Madras. There is a specimen of that species in the Vienna Museum collection, marked *Ind. or.*, and is most likely the one referred to by Redtenbacher. I very much doubt, however, that it is Indian. It was probably received from the Madras Museum, or from a collector, during the stay of the Novara at Madras. My reason for doubting the correctness of the Indian locality is based upon an observation which I made. I asked the Curator, the late Capt. Mitchell, for the loan of any specimens of *Passali*, he might have in the Madras Museum. I was promptly responded to, and shortly after received four specimens of *Passali*. Two proved to belong to a new species *Pleurarius brachyphyllus*, and the two others were *Solenocyclus exaratus* (known from Madagascar) and *Mastachilus polyphyllus* (from Australia).† After detailed inquiry Capt. Mitchell informed me, that the two first specimens (distinguished by numbers attached to them) were truly Indian, from the Nilgherries, but that the localities of the two others were unknown. They had been received from some old European collection. It seems to me very probable that something similar happened with the specimens of *M. politus*, obtained by the Novara at Madras.

Kaup describes *Macrolinus Waterhousei* and *Episphenus Moorei* from Ceylon. I have not seen either of these.

Fifth group. ACERALE.

Of the five genera, *Laches*, *Gonates*, *Aceraius*, *Cetejus*, and *Basilianus*, only the third and fifth have as yet been found in India; they are common and numerous, and the specific number of five will, I am sure, run short for what is in this case really required for specific determination, unless the genera are somewhat differently defined and grouped.

Of the other genera I have examined a few interesting species. Among these is one which Kaup would probably call the first, *moderately convex*, species of *Laches*, and the largest species of *Cetejus*; both answer exactly the characters of the respective genera. I add descriptions of the two new species‡ in a foot note.

* Originally described by Burmeister from Van Diemen's Land.

† The Vienna Museum possesses two specimens of *polyphyllus* from China.

‡ *LACHES GRACILIS*, n. sp. Total length 26, width of head 5.5, of prothorax 7.5, of shoulders 7.6, length of elytra 15 m.m. Whole body moderately convex.

Upper lip almost quite straight in front; left jaw barely longer than the right one. The three first lobes of the antennæ short, the fourth slightly shorter than the fifth. Clypeus on its posterior half rugosely punctated; the short horn rises from the anterior central edge of a transversely elongated, smooth protuberance; from it proceed under a narrow angle the frontal carinæ, each terminating in an elongated smooth tubercle, or rather short ridge, connected by a very fine carina. The marginal tubercles of the clypeus are pointed, depressed, placed nearer to each other than the width of the

A specimen of *Gonates naviculator* from the Moluccas, in Dr. Felder's collection, has the middle frontal carina very distinct, while two others of

upper lip, they are unequal, the left being slightly larger than the right one; they are not in any way connected with the frontal tubercles, but a smooth concavo field proceeds from each of these to the respective ocular ridge. The latter is angular or subtubercular above each eye, and anteriorly formed by a thin carina, terminating on the angle of the clypeus with a little spine.

Prothorax somewhat broader posteriorly than anteriorly, with a very distinct central groove; marginal furrow very narrow, with a minute punctation; lateral scars vertical, subovate, punctated; a group of distinct dots also exists above each anterior corner.

Scutellum smooth; waist laterally punctated. All the furrows of the elytra coarsely punctated, without a trace of any kind of hair.

Tongue tricarinate, the middle carina the strongest; laterally slightly concave. Lower lip convex, smooth, with a transversely elongated, small, marginal, smooth scutellum between it and the tongue; branches coarsely punctated. Waist, below, with a small oblique, ovate scar on either side. Metasternum on the posterior part sparsely, on the sloping corners densely punctated. Abdominal rings each with a linear, punctated scar on either side. Prothorax, below, as well as the middle and hind tibiæ, sparsely covered with yellowish rufescent hair.

Hab.—Batchian island; a single specimen in the Vienna Museum.

CETEJUS AUSTRALIENSIS, n. sp.

Total length 33, width of head 7, of prothorax 9·9, of shoulders 9·6, length of elytra 19·2 m.m. Whole body rather depressed.

Left jaw slightly longer than the right one. Upper lip deeply emarginate, the right half being slightly shorter and a little more rounded than the left one, as in *G. naviculator*. Antennæ with six lappets, the two first being very short, the third a little shorter than the three terminal ones, which are subequal and rather slender. Clypeus entirely rugose; the horn is elongated, with a triangular tubercle on each of its basal halves. The frontal ridges issue from the horn under a moderately obtuse angle, (as in *Lept. dentatus*), and terminate with distinct points, connected by a very fine carina, from which the margin of the clypeus descends almost vertically. Both marginal tubercles are pointed, similarly formed, but the left one is conspicuously larger than the right. Each frontal tubercle is connected by a short carina with its corresponding marginal one, and besides also with its corresponding small tubercle in the middle of the supra-ocular ridge, each of which is truncated in front.

Prothorax slightly broader posteriorly than anteriorly, with a fine but almost complete central groove; sides entirely punctated, lateral scar small and rounded; marginal furrow very narrow.

Scutellum smooth, with a central basal groove; waist laterally punctated. The four central furrows of the elytra on the upper side indistinctly, the remainder distinctly, punctated, those at the sides at least twice as broad as the ridges separating them and with distinct transverse bacilli. This structure very strongly reminds one of *Basilianus cancerus*, which is also the largest species of its genus.

Tongue tricarinate, laterally concave. Lower lip convex and smooth, with a small elongately semi-elliptical scutellum between it and the tongue; a small but distinct scar on each side of the lower lip, its branches rather larger, rounded at the ends and somewhat inwardly curved, entirely but not very densely punctated. Prosternal

the same species in the Vienna Museum collection from Amboina (marked *Doleschali*, M. C.) have merely a trace of the middle frontal carina, and the prothorax is comparatively smaller.

Gonates Germarii was received by Mr. W. S. Atkinson from Java. Kaup describes *Laches Comptonii* from Ceylon. I have not seen it.

15. ACERAIUS GRANDIS, Burm.

This is a very common species in Sikkim, Assam, the Naga and Cachar hills. Indian specimens exactly agree in structure with the large Javanese type form, but their usual size is only 40 m.m., and I never saw one exceeding 45 m.m. In Javanese specimens generally only the ninth and tenth rib of each wing are punctated and hairy near the shoulder, while Indian specimens have, as a rule, the whole of the seventh and ninth rib punctated; it is very rarely that the pits entirely disappear on the seventh.

16. ACERAIUS EMARGINATUS, Fabr.

An extremely variable species, both in general size, as well as in the shape of the two marginal processes of the clypeus; the left one being sometimes sharply pointed at the end, or scarcely bipartite, as in Percheron's *pilifer*. The seventh and ninth ribs of the elytra are as a rule entirely punctated, very rarely is the seventh smooth. The smaller forms, between 30 and 38 m.m., are, I think, mostly males, they have the furrows of the wings perceptibly punctated; the larger specimens, about and above 40 m.m., appear to be mostly females, the furrows of their elytra are almost devoid of punctations.

The species occurs in Sikkim, Assam, Cachar, but is much rarer than *A. grandis*. I also obtained it on Penang hill, and from Johore; in the Vienna collections are specimens from China, Luzon, and Manilla.

Redtenbacher's *Passalus Nicobaricus* from Sambelong (Great Nicobar) is also undoubtedly this species, and neither a *Macrolinus* nor a *Basilianus*.

The next genus, *Basilianus*, is the most numerous in species. I possess specimens of the four species described by Kaup, and three others which I must regard as new. This is as yet almost the only instance in which I have been obliged to transgress Kaup's limit of five species. I took considerable pains to ascertain whether these species could possibly belong to any of the other genera of *Eriocneminae*, but they do not answer to the characteristic of any

process between the anterior coxæ grooved. Waist, below, smooth, with an elongated scar on either side. Metasternum smooth; on the sloping corners rugosely punctated. Sides of abdominal segments and the posterior part of the last segment mostly finely punctated. No hairs are seen on the elytræ; the middle tibæ are moderately hairy, the hind ones somewhat less so.

Habitat—Australia; a single specimen in Dr. C. Felder's collection.

other genus than *Basilianus*. They differ from *Aceraius* by the absence of hair at the sides of the elytra, and from the other genera of the *Aceraiæ* in the shape of the lower lip and the want of a scutellum between it and the tongue; the same character holds good in a comparison with *Mastachilus*, and the unequal lappets on each of the antennæ readily separate them from the other *Macrolinæ*. The seven species may, however, be divided into two sections, as follows:

a. With the marginal processes of the clypeus very asymmetrical,—*Nilgheriensis*, *inæqualis*, *Cantoris*, *Indicus*.

b. With the marginal processes of the clypeus very slightly or scarcely asymmetrical,—*canrus*, *Andamanensis*, *Sikkimensis*.

17. *BASILIANUS NILGHERIENSIS*, Guér.

The usual size of Malabar specimens is only 28 m.m.; it does not appear to be a common species.

18. *BASILIANUS INÆQUALIS*, Burm.

Common at Malacca. Kaup gives it from Singapore and Penang. The largest specimen which I have examined is nearly 30 m.m., and the smallest 24·7 m.m., the length of the elytra being 13·7, width of head 5·5, of prothorax 6·9, the proportionate size of this last being often remarkably small.

19. *BASILIANUS CANTORIS*, Hope.

The usual size of Sikkim and Assam specimens is 33 to 35 m.m. Kaup gives it also from Malacca and Cambodja.

20. *BASILIANUS INDICUS*, n. sp.

Total length from 33 to 40 m.m., one specimen is 37·6, width of its head 9, of prothorax posteriorly 12, of shoulders 11·5, length of elytra 21·5 m.m.

Left jaw slightly straighter and longer than the right one. Upper lip widely and rather deeply emarginate in front. Antennæ, with the three terminal lappets longest and subequal, the second and third about half the length of the fourth, and the first is very short, sometimes scarcely traceable. Clypeus rather large, mostly smooth, or sparsely punctated, with the supra-ocular ridges anteriorly truncated with an inward slope, the inner edge of the slope being sometimes very indistinct, while the outer one is sharp, and projects at the corners, somewhat as in *Aceraius grandis*. The horn rises out of a transverse long tubercle, it is subpyramidal, the posterior slope being gradual, the anterior vertical; the frontal carinæ are very fine, forming together a wide semicircle, each terminating in a blunt tubercle, and from each proceeds a very fine carina to the respective marginal process of the clypeus; the left process is the longer, depressed, inwardly bent, obtuse at the end; the right one is thick, short, obtusely pointed.

The prothorax is moderately convex, as in *Cantoris*; it is conspicuously wider posteriorly than anteriorly, with a central groove which is almost as complete, as it is usually to be found in American forms and in these only; marginal furrow anteriorly somewhat widened, bent in and punctated; lateral scar small, rounded, generally with a few pits; the sides of the prothorax are either quite smooth (in the larger specimens), or punctated in front of the scar and at the anterior corner (in the smaller specimens). Whether this is a distinction of sex I cannot say.

Scutellum centrally very minutely strigated; waist laterally densely punctated. Shoulders slightly thickened, only anteriorly with few very short and thin hairs. Furrows of the elytra, above, slightly, laterally distinctly punctated; without hair.

Tongue tricarinate. Lower lip in the middle somewhat convex, mostly smooth or punctated, anteriorly sometimes slightly indented; its branches densely punctated, no scars exist on it. Waist, below, smooth, with elongated diverging, dull scars. Metasternum smooth, its posterior sloping corners rugosely punctated, its sides entirely hairy. Abdominal segments laterally with linear scars.

Prothorax posteriorly, below, covered with brown hair; middle tibiæ very densely, posterior ones less hairy.

Hab.—Nilgheries and Malabar. I received several specimens from Major Beddome, Rev. Baker, and Surgeon Major F. Day.

21. BASILIANUS CANCRUS, Perch.

The largest specimen in my collection is 45 m.m. It has as yet only been obtained in Nipál, Sikkim, Bútán, and Assám.

22. BASILIANUS ANDAMANENSIS, n. sp.

Total length 32 to 38 m.m.; one measures 35.6, width of its head 8, of prothorax 10, of shoulders 10.2, length of elytra 21 m.m.

Jaws almost equal. Upper lip straight in front or obliquely truncated, the left rounded corner being often a little more projecting. Lappets of the antennæ generally graduated, the first very short, the succeeding to the fifth gradually longer. Clypeus entirely punctated and covered with short hair; supra-ocular ridges low, distinctly truncated in front and with the carina round the concave space well developed. The horn consists of an elongated ridge, with a small tubercle on either side; it is slightly elevated at the anterior end and with an almost vertical slope. The frontal carinæ are rather short, terminating with elongated distinct points, connected by another carina, from which the margin of the clypeus is almost vertical. The marginal processes of the clypeus are far distant, situated above the edges of the upper lip; they are short, pointed, in some specimens apparently almost equal, in others the left one is distinctly larger. They exactly resemble those

of *cancrus*, and each also has on its lower side a small tubercle. From both the marginal processes and the frontal tubercles generally proceed a few irregular low ridges to the middle of each supra-ocular ridge.

Prothorax moderately convex, smooth, generally with a very faint indication of a central groove; lateral scar rounded and, like the entire lateral margins, very finely punctated; sometimes there are one or two dots at the anterior corner.

Scutellum smooth, convex, sometimes with a minute punctation along the lateral edges. Shoulders well prominent, and each with a group of short brown hair, considerably more developed than in *Cantoris*. Furrows of the elytra finely punctated; all the ridges smooth.

Tongue tricarinate. Lower lip large, mostly smooth, without any scars; its branches densely punctated. Prosternal carina sharp, long. Waist with elongated diverging scars, sometimes with a short, central, basal groove. Metasternum smooth, its hinder corners sparsely and very finely punctated; sides densely punctated and hairy. Abdominal segments smooth, with linear oblique scars. Middle and hind tibiæ rather thinly hairy; lower sides of prothorax more distinctly so; last abdominal segment at the end provided with conspicuously elongated brown hair.

Hab.—Andamans near Port Blair; Camorta and Katchal islands of the Nicobar group; common. I found one specimen in the Vienna collection, together with *Mastachilus politus*, labelled 'Madras,' 'Novara.' It was most likely obtained from some officer who had been at the Andamans, or from the Museum.

23. *BASILIANUS SIKKIMENSIS*, n. sp.

Total length 33, width of head 7.1, of prothorax or of shoulders 10, length of elytra 19 m.m.

This species resembles *B. Cantoris* in size and general character of form and convexity of the body. The jaws are subequal; the upper lip obliquely truncated, almost quite straight, with obtuse corners. The three first lappets of the antennæ much shorter than the three terminal ones, the two sets being among themselves almost equal. Clypeus entirely punctated and very similar to that of *B. Andamanensis*, but the horn is a little shorter, the frontal carinæ include a slightly smaller semilunar space, and the frontal processes of the clypeus are almost shorter, both pointed, nearly quite equal in size, and each is on the outer side accompanied by a short longitudinal carina, which, however, does not extend to the supra-ocular ridge.

Prothorax moderately convex, with a very faint trace of a median groove; lateral scar rather large, pitted all round, the dots or pits being almost continuous to the anterior corner and here again rather dense; along the lateral margins densely and very finely punctated.

Scutellum smooth. Shoulders moderately developed, on the anterior slope finely punctated and shortly hairy. Furrows of the elytra above distinctly punctated, laterally broader and with transverse bacilli, the seventh and eighth furrow are broadest.

Tongue rather narrow, punctated, thinly tricarinate, laterally concave. Lower lip convex, with sparse punctation, its branches densely punctated. Waist, below, with diverging elongated, dull scars. Metasternum smooth, its hinder corners coarsely punctated, and the narrow sloping sides along the elytræ very finely punctated and hairy.

Abdominal segments with elongated, finely punctated lateral scars, broadest on the first few segments, linear on the penultimate and obsolete on the last. Lower side of prothorax the middle and hind tibiæ with short and rather thinly distributed hairs.

Hab.—Sikkim. I obtained a single specimen at about 1500 feet, some two miles east of Pankabari.

The species is intermediate between *cancerus* and *Andamanensis*; with the latter it agrees in the shape and structure of the head, with the former in the transverse costulation of the lateral furrows of the elytra, but in *cancerus* this costulation is still stronger.

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NOTE ON SOME ANDAMANESE AND NICOBARESE REPTILES, WITH THE DESCRIPTION OF THREE NEW SPECIES OF LIZARDS,—by DR. F. STOLICZKA.

[Received and read 7th May, 1873.]

I have given a list of the Reptiles and Amphibians, known from these islands, in a former paper,—Journal A. S. B., Vol. xxxix, pt. II, 1870, pp. 136-138 etc.; having, however, lately had an opportunity of visiting all the Nicobar islands (excluding Little Nicobar and Pulo Milu), and the Andamans, including the Cocos and Preparis, I am in a position to add a little information about some of the species. Our visit\* was chiefly from an ornithological point of view, and as it fell already in the hot season (March), the time was very unfavorable for collecting reptiles, at least on the northern group of islands, which at this season are much drier than the southern Nicobars.

We found the following species generally distributed over nearly all the islands which we visited:—*Tropidonotus quincunziatus*, *Lycodon aulicus*, *Dendrophis pictus*,† *Cerberus rhynchops* and *Trimeresurus Cantoris*. Spe-

\* In company with Mr. A. O. Hume, C. B., Messrs. Ball and Wood-Mason.

† In the July number of the Berlin Monatsbericht (for 1872, p. 533), just received, I observe that Dr. Peters describes a *Dendrophis terrificus*, with 13 rows of scales; it is very closely allied to *Dendrophis caudolineatus*, (compare ante p. 123), but differs in coloration.